

REMARKS

In the Office Action, claims 1-8, 27 and 28 were rejected and claims 9-26 were allowed. All of claims 1-28 are believed to be patentable in their present form. Reconsideration and allowance of all pending claims are requested.

Rejections Under 35 U.S.C. § 102

In the Office Action, claims 1-4, 27 and 28 were rejected under 35 U.S.C. § 102(b) as being anticipated by Picard et al., U.S. Patent No. 5,442,674 (hereinafter "Picard"). A *prima facie* case of anticipation under 35 U.S.C. § 102 requires a showing that each limitation of a claim is found in a single reference, practice or device. *In re Donohue*, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985). Applicants respectfully assert that the present invention, as recited in independent claims 1, 27 and 28 is patentable over the Picard reference.

Independent claim 1 and claims depending therefrom.

Applicants respectfully submit that there are two possibilities recited in claim 1 for the spacing of markers on or in the supporting structure. The first possibility requires spacing the markers (1) axially along the supporting structure and (2) along a central axis of the supporting structure (*see*, Fig. 3 and Fig. 4). The second possibility requires spacing the markers circumferentially over not more than a revolution about the supporting structure (*see*, Fig. 5, Fig. 6, Fig. 7, Fig. 8 and Fig. 9).

The Examiner argued that Picard discloses the claimed arrangement of the marker and refers to Figs. 2a and Fig. 2b. The Picard reference discloses a phantom constituted by a helix that enables an automatic geometrical calibration of any X-ray imaging system that uses a planar detector (*see*, abstract and FIG. 1 and FIG. 3 of Picard). However, in all embodiments of Picard, the markers are shown circumferentially *over more than one revolution of the helix* about the supporting structure. Moreover, in none of the

embodiments are the markers shown to be *along or on the central axis* of the supporting structure.

Applicants respectfully submit that Figs. 2a – 2d of Picard illustrate markers in a helical arrangement with respect to the central axis of the supporting structure and not in a linear arrangement along the central axis as recited in the claim. Further, the pitch of the helix in Picard is more than one revolution about the supporting structure (*see*, Fig. 2, Fig. 3, Fig. 4, and Fig. 5). Clearly, this is not same as the recitation of the claim that requires the pitch of the helix to be not more than one revolution about the supporting structure.

At least because Picard do not disclose or suggest a phantom for a volumetric computed tomography system comprising of markers that are (1) spaced apart from one another axially along the supporting structure and along a central axis of the supporting structure or (2) circumferentially over not more than a revolution about the supporting structure as claimed, the reference cannot anticipate claim 1.

Claims 2-4 depend directly or indirectly from claim 1. Accordingly, the Applicants submit that claims 2-4 are allowable by virtue of their dependency from an allowable base claim. Applicants also submit that the dependent claims are further allowable by virtue of the subject matter they separately recite. Thus, it is respectfully requested that the rejection of claim 1-4 under 35 U.S.C. §102(b) be withdrawn.

Independent claim 27.

Regarding claim 27, Picard fails to disclose markers being spaced linearly along a central axis of the supporting structure as described above. Applicants respectfully submit that even if evenly spaced markers of the helix are linearly spaced *with respect to* a central axis as shown in Picard, they are not linearly spaced *along the central axis*. In other words, the markers in Picard are linearly spaced along the helix.

At least because Picard do not disclose or suggest a phantom for a volumetric computed tomography system comprising of markers that are spaced linearly along a central axis of the supporting structure as claimed, the reference cannot anticipate claim 27. Thus, it is respectfully requested that the rejection of claim 27 under 35 U.S.C. §102(b) be withdrawn.

Independent claim 28.

Regarding claim 28, Picard fails to disclose markers being placed at varying radial depth within the supporting structure. The Picard reference does not teach placement of markers at varying depths in a supporting structure at all. The Examiner argued that the reference does teach this feature, and again referred to Fig. 2a and Figs. 2b. However, Fig. 2a-2d clearly illustrates that markers are placed on the surface of the supporting structure and not at varying radial depth within the supporting structure as recited in claim 28.

At least because Picard do not disclose or suggest a phantom for a volumetric computed tomography system comprising of markers that are spaced apart from one another at varying radial depth within the supporting structure as claimed, the reference cannot support a *prima facie* case of anticipation of claim 28. Thus, it is respectfully requested that the rejection of claim 28 under 35 U.S.C. §102(b) be withdrawn.

Rejections Under 35 U.S.C. § 103

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Picard in view of Close et al., U.S. Patent No. 6,000,847. Claims 6-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Picard in view of Mitschke et al., U.S. Patent No. 6,715,918. As discussed above, the Picard reference does not teach, suggest or disclose each and every aspect of Applicants' recited invention as claimed in the amended independent claim 1. Neither Close nor Mitschke obviate the deficiencies discussed above. Claims 5-8 depend directly or indirectly from claim 1, and are allowable by virtue

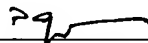
of such dependency, as well as for the subject matter they separately recite. Thus, it is respectfully requested that the rejection of claims 5-8 under 35 U.S.C. §103(a) be withdrawn.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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